

AMENDMENTS TO THE CLAIMS:

Claims 1-3 (Canceled)

4. (Currently Amended) An apparatus for feeding a fuel to a methanol reforming apparatus that generates a hydrogen-rich gas by reacting a mixed gas of water, methanol and air on a catalyst, comprising:

a first mixed water-methanol solution tank wherein the molar ratio of water/methanol is controlled to be at a predetermined value for use in reforming;

a second mixed water-methanol solution tank wherein the molar ratio of water/methanol is controlled to be at 4.6 or higher; and

a switching means that switches which of the first and second mixed water-methanol solution tanks is used as a fuel source according to the conditions of operation of the methanol reforming apparatus;

an evaporator that generates a mixed water-methanol gas by evaporating the mixed water-methanol solution supplied from the first or second mixed water-methanol solution tank; and

an electronic control unit that controls the switching means so as to supply the mixed water-methanol solution from the second mixed water-methanol solution tank to the evaporator when starting and/or stopping the methanol reforming apparatus.

Claims 5-9 (canceled)

10. (Previously Presented) An apparatus for feeding a fuel to a methanol reforming apparatus according to claim 4, wherein the second mixed water-methanol tank is an S/C control tank in which the molar ratio of water/methanol is controlled by utilizing water in the methanol reforming apparatus.

11. (Previously Presented) An apparatus for feeding a fuel to a methanol reforming apparatus according to claim 10, further comprising: a condenser which recovers water generated in the methanol reforming apparatus, wherein the S/C control tank prepares a mixed water-methanol solution from the mixed water-methanol solution tank supplied from the first mixed water-methanol solution tank and the recovered water from the condenser.

12. (Previously Presented) An apparatus for feeding a fuel to a methanol reforming apparatus according to claim 11, wherein the condenser recovers at least one of water generated in a fuel cell and water generated in the methanol reforming apparatus.

13. (Previously Presented) An apparatus for feeding a fuel to a methanol reforming apparatus according to claim 4, further comprising: an electronic control unit which controls the amounts to be introduced so that the molar ratio of water/methanol is 4.6 or higher and/or the molar ratio of air/methanol is 1.5 or lower.

14. (Previously Presented) An apparatus for feeding a fuel to a methanol reforming apparatus according to claim 13, wherein the electronic control unit controls introducing the mixed water/methanol gas simultaneously with or after the introduction of air.

15. (Previously Presented) An apparatus for feeding a fuel to a methanol reforming apparatus according to claim 13, further comprising: an O₂ sensor installed at the inlet of the catalyst, wherein the electronic control unit controls the amounts to be introduced so that the molar ratio of water/methanol falls within a range of 1.0-2.0 at a time when the concentration of air at the inlet of the catalyst has decreased to 50% by mole or lower.

16. (Previously Presented) An apparatus for feeding a fuel to a methanol reforming apparatus according to claim 4, further comprising an electronic control unit, wherein when the operation of the methanol reforming apparatus is stopped, the electronic control unit stops the introduction of air, changes the molar ratio of water/methanol to a value higher than that of a normal operation, and stops the introduction of water and methanol.

17. (Previously Presented) An apparatus for feeding a fuel to a methanol reforming apparatus according to claim 16, wherein the molar ratio of water/methanol is set to 4.6 or higher.

18. (Previously Presented) An apparatus for feeding a fuel to a methanol reforming apparatus according to claim 4, further comprising: an electronic control unit; and a temperature sensor installed inside of the catalyst,

wherein when the operation of the methanol reforming apparatus is stopped, the electronic control unit stops the introduction of air to thereby lower the catalyst temperature through a steam reforming reaction, stops the introduction of water and methanol while the catalyst is still hotter than 100°C, and adjusts the methanol concentration to 18% by mole or lower.

19. (Previously Presented) An apparatus for feeding a fuel to a methanol reforming apparatus according to claim 18, wherein the electronic control unit reintroduces air after bringing the methanol concentration to 18% by mole or lower, and then evaporates and removes remaining water and methanol by means of the oxidation heat of the catalyst.

20. (Previously Presented) An apparatus for feeding a fuel to a methanol reforming apparatus according to claim 19, wherein the electronic control unit introduces air at a temperature of 100°C or lower after removing water and methanol by evaporation, and then cools down the catalyst and purges the gas.